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WORCESTER, MASSACHUSETTS**BEHAVIORAL RISK FACTOR SURVEY
1994-1996 CITY REPORT**

Bureau of Health Statistics, Research and Evaluation
Chronic Disease Surveillance Program ♦ **Massachusetts Department of Public Health**
January 1998

The Behavioral Risk Factor Surveillance System (BRFSS) is an annual random statewide telephone survey of Massachusetts adults 18 years of age and older. The BRFSS collects information about a wide variety of health concerns, from personal behaviors and access to medical care to opinions on health-related policy issues. Responses to these questions provide important information about the prevalence of risk factors which are responsible for many of the causes of premature death, sickness, and disability among Massachusetts residents.

Since 1994, additional interviews have been conducted among adult residents of major cities in the Commonwealth (Worcester, Springfield, Boston, Lawrence/Lowell, Fall River/New Bedford) in order to permit estimates of health risks at the local level. The cities of Lawrence and Lowell and of Fall River and New Bedford were each sampled as a combined unit (city pairs) to maximize limited resources.

This report summarizes some of the results of the 1994-1996 surveys for the city of Worcester. A total of 1,027 residents were interviewed during the three-year period. Companion reports summarize results for the other cities. In order to assist readers in interpretation of the results, we have highlighted three types of comparisons in the report. First, we have compared the results for Worcester to the rest of the state. Next, we have compared Worcester to the other oversampled cities, as well as to respondents in the remaining cities and towns throughout Massachusetts. Finally, we have highlighted differences in risk status by sex, age, race/ethnicity, education, and income level among residents of Worcester.

Some questions on the BRFSS were asked in all three years, while others were asked in only one or two years. When data are available for all years, we present results for all years combined. All data are weighted so that results can be considered an estimate of the prevalence of risk factors among adult residents of Worcester and other areas of the state. A more detailed description of the methodology of the survey, including important cautions about interpreting results, can be found at the end of this report.

Highlights**More residents of Worcester
than the rest of the state reported:**

- ♦ their health status as fair or poor
- ♦ being current smokers
- ♦ allowing smoking in their homes

**Fewer residents of Worcester
than the rest of the state reported:**

- ♦ always using a seat belt

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Health Status

- A higher percentage of Worcester adults (16%) reported their health as fair or poor compared to the rest of the state (12%).¹
- Among the selected cities, the prevalence of fair or poor health status ranged from 14% in Boston to 20% in Lawrence/Lowell and Fall River/New Bedford (Fig.1).

Figure 1

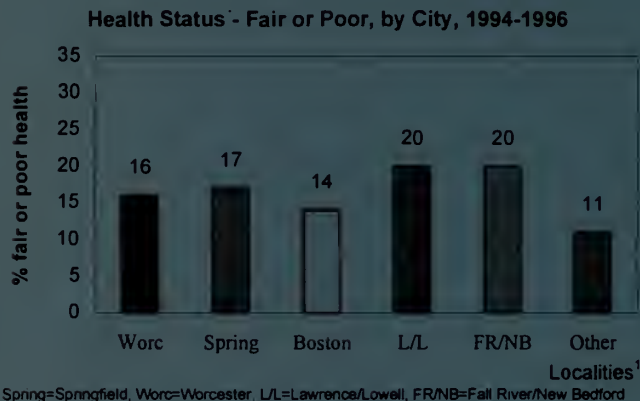
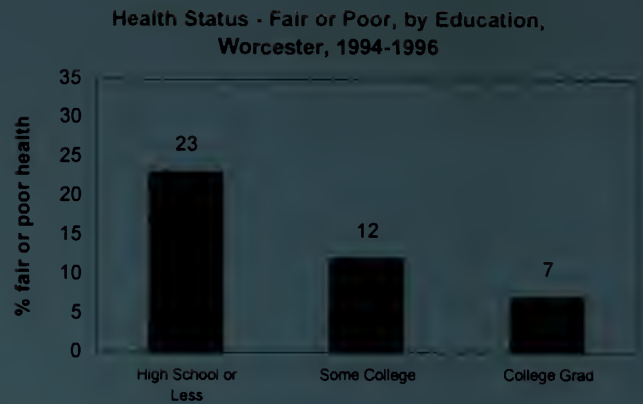


Figure 2



- In Worcester, as in the rest of the state, reported health status was poorer among those 55 years of age and older, Hispanics, and those with lower levels of education and income (Fig.2).

¹ The results provided for "the rest of the state" represent data for the entire Commonwealth excluding Worcester. The results for "other localities" represent all Massachusetts cities and towns excluding the oversampled cities. Therefore, the results for "the rest of the state" and "other localities" will often differ.

Health Insurance and Access

- 9% of Worcester adults were without health insurance compared to 10% in the rest of the state. Approximately 9% of residents from both Worcester and the rest of the state reported not seeking care due to cost.
- The percentage of residents without insurance ranged from 9% to 17% in the oversampled cities (Fig.3). The percentage not seeking medical care because of cost varied from 9% in Worcester to 14% in Lawrence/Lowell.

Figure 3

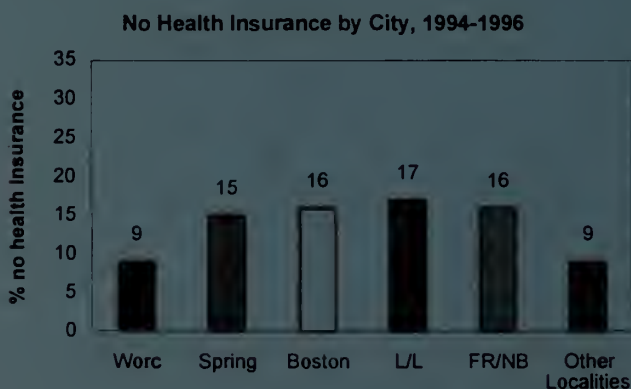
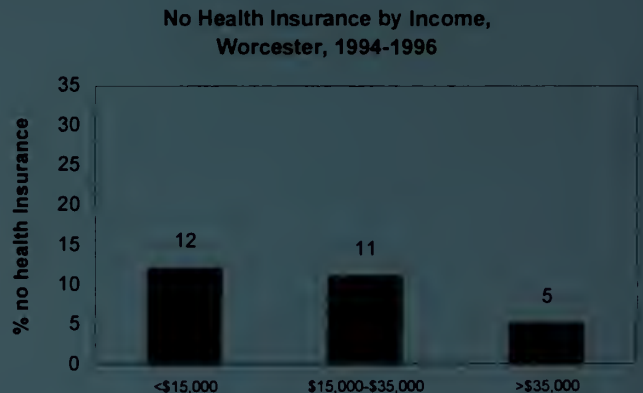


Figure 4



- In Worcester, as in the rest of the state, Hispanics and those with lower income and education were less likely to have health insurance (Fig.4). Hispanics and those with lower levels of income were also more apt not to seek medical care because of the cost.

Current Smoking

- More residents of Worcester (27%) than the rest of the state (22%) reported being current cigarette smokers.
- Among the oversampled cities, the prevalence of smoking ranged from 25% in Boston and Lawrence/Lowell to 29% in Fall River/New Bedford (Fig.5).

Figure 5

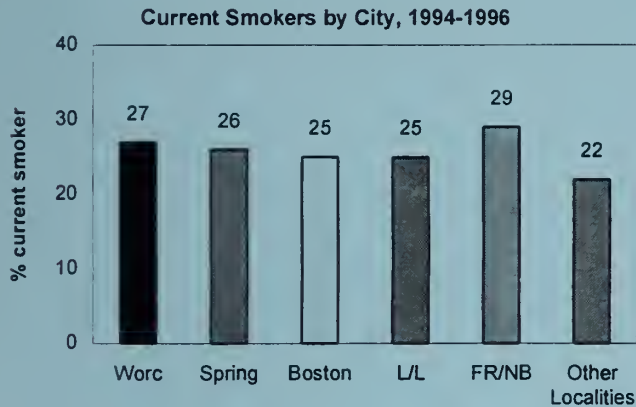
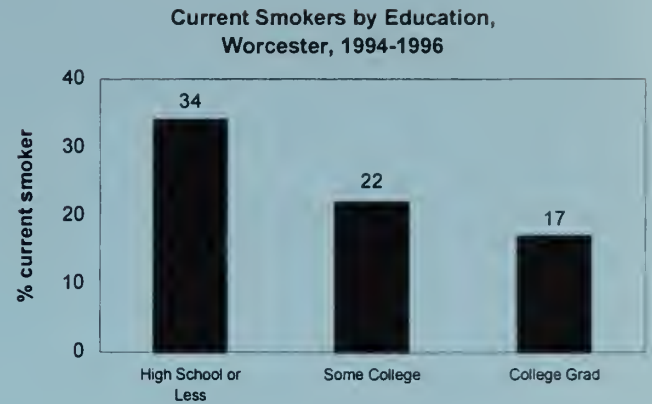


Figure 6

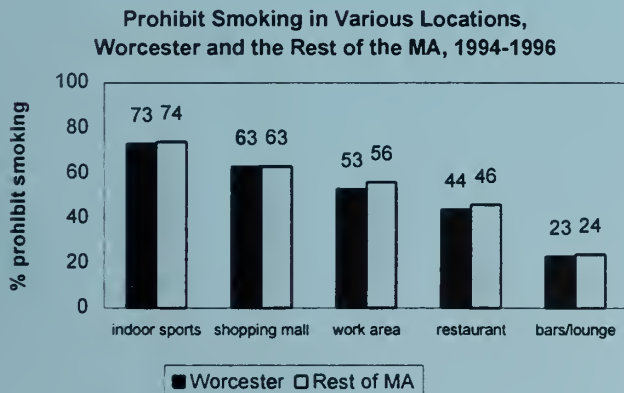


- In Worcester, as in the rest of the state, smoking rates were higher among those with no more than a high school education (Fig.6).

Attitudes toward Smoking Restrictions

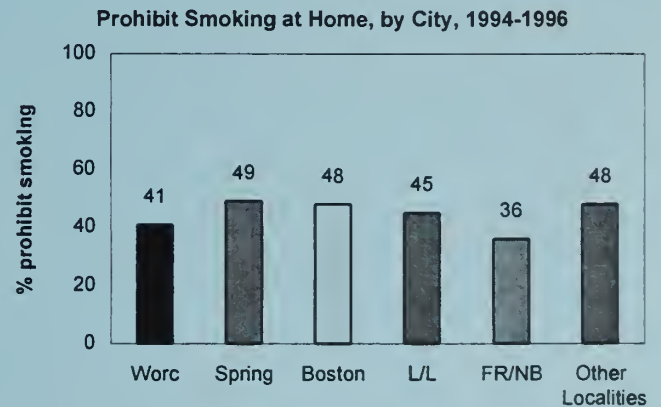
- A majority of Worcester adults and adults from the rest of the state supported policies prohibiting smoking at indoor sporting events, shopping malls, and indoor work areas. Half of Worcester adults and adults from the rest of the state supported banning smoking in restaurants, while a lesser percent supported prohibiting smoking in bars and lounges (Fig.7).

Figure 7



Smoking in the Home

Figure 8



- Among the oversampled cities, the proportion of respondents who reported prohibiting smoking in their home ranged from 36% in Fall River/New Bedford to 49% in Springfield (Fig.8).

Overweight

- Based on self-reported height and weight measurements, 28% of Worcester residents, and 25% of residents from the rest of the state were calculated to be overweight by the body mass index (BMI).²
- The prevalence of being overweight ranged from 23% in Boston to 33% in Fall River/New Bedford (Fig.9).

Figure 9

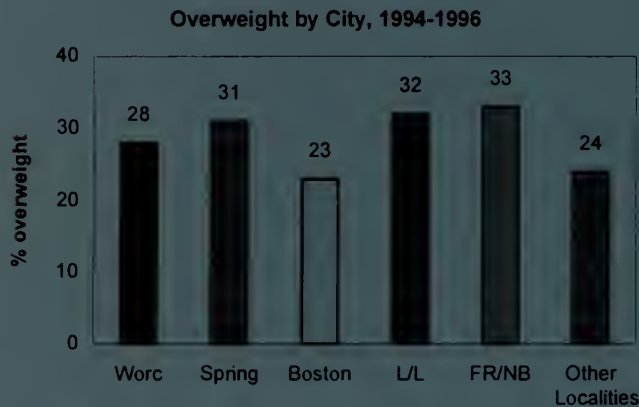
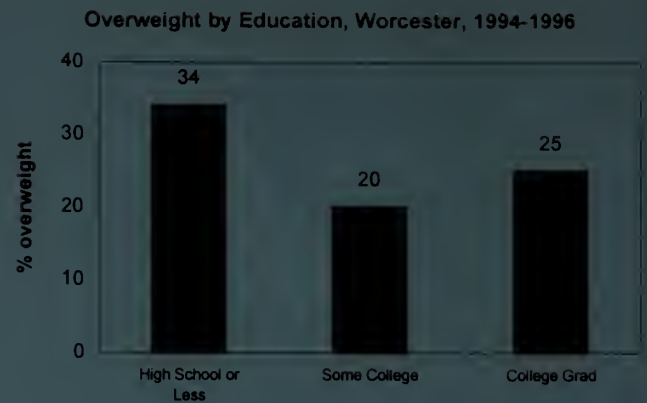


Figure 10



- In Worcester, as in the rest of the state, persons age 35+ and those with a high school education or less were more likely to be overweight (Fig.10).

² BMI is calculated by dividing a person's weight in kilograms by his/her height in meters squared (kg/m^2). Men with a BMI of 27.8 or greater and women with a BMI of 27.3 or greater are considered overweight.

Physical Activity - 1994, 1996

- 28% of Worcester residents and 31% of residents from the rest of the state reported participating in regular physical activity.³
- In the oversampled cities, participation in regular physical activity ranged from 25% in Fall River/New Bedford to 30% in Boston (Fig.11).

Figure 11

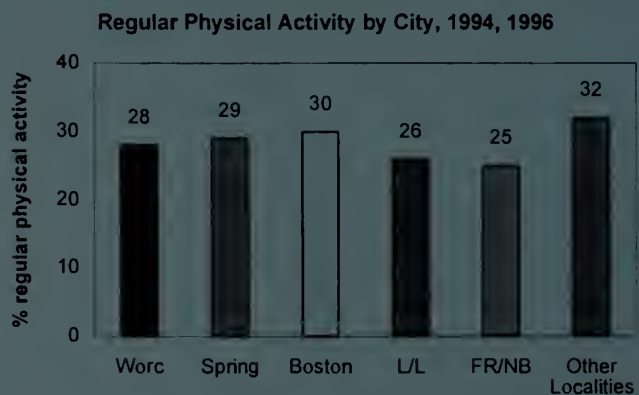
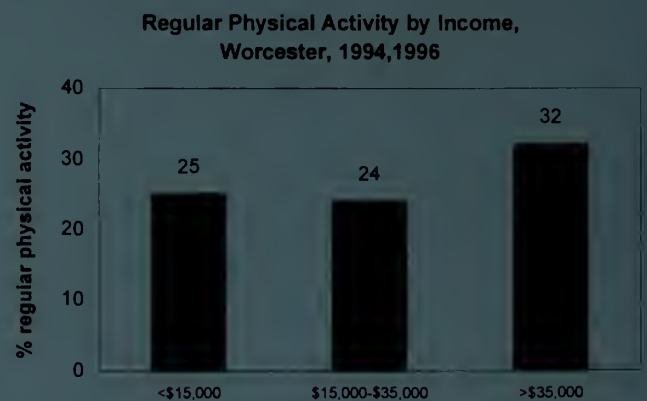


Figure 12



- In Worcester, 25% of individuals with household incomes below \$15,000 reported participating in regular physical activity compared to 24% with incomes between \$15,000 and \$35,000 and 32% of those with incomes above \$35,000 (Fig.12).

³ Regular physical activity is defined as either vigorous activity for 20 minutes per session on 3 or more days per week, or activity for 30 minutes per day on 5 or more days per week. Physical activity at work is not included in this definition.

Diet and Nutrition - 1994, 1996

- 25% of Worcester residents and 28% of residents from the rest of the state reported consuming at least five servings of fruits and vegetables per day.
- The percentage of residents consuming 5 or more servings of fruits and vegetables per day ranged from 24% in Boston and Fall River/New Bedford to 28% in Springfield (Fig.13).

Figure 13

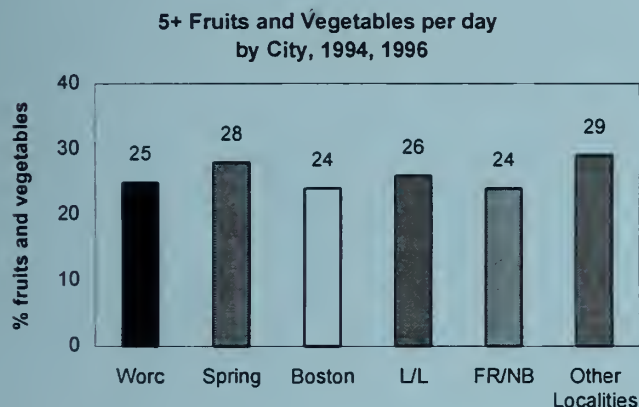
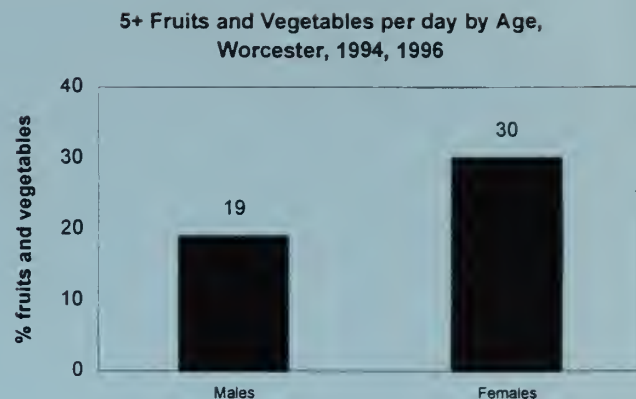


Figure 14



- In Worcester, as in the rest of the state, females and respondents age 55+ were more likely to report adequate fruit and vegetable consumption (Fig.14).

Seat Belt Use - 1995

- Fewer residents from Worcester (50%) reported always wearing a seat belt compared to residents from the rest of the state (57%).
- The percentage of residents who reported always using a seat belt ranged from 43% in Fall River/New Bedford to 57% in Boston (Fig.15).

Figure 15

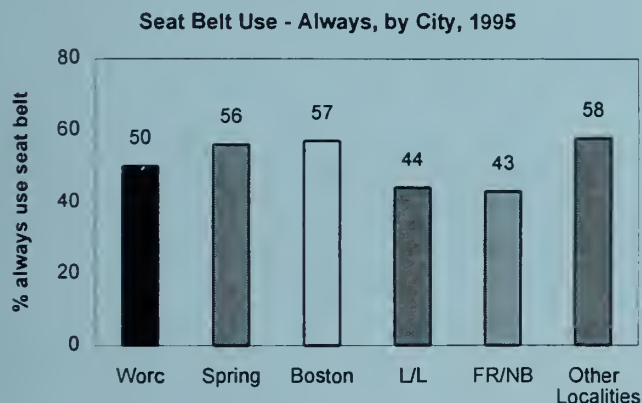
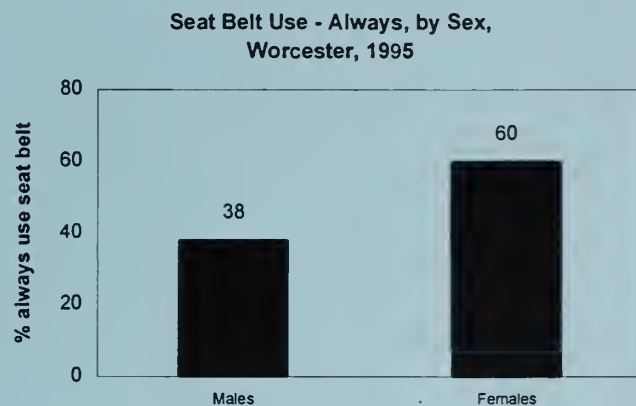


Figure 16

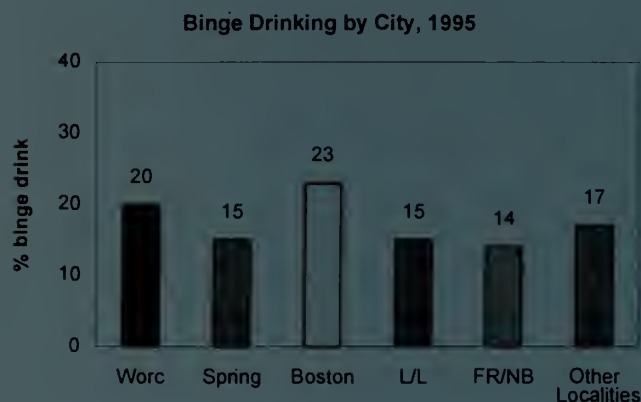


- In Worcester, as in the rest of the state, seat belt utilization was higher among females and among college graduates (Fig.16).

Alcohol Use - 1995

- Nearly 4% of Worcester adults reported drinking 60 or more drinks in the past 30 days (“chronic drinking”), 20% reported drinking 5 or more drinks on any occasion in the past 30 days (“binge drinking”), and 5% reported driving while intoxicated (DWI) in the past 30 days. In the rest of the state, the prevalence of chronic drinking was 4%, binge drinking 17%, and DWI 3%.

Figure 17



- 38% of Worcester adults under age 65 reported having been tested for HIV, compared to 34% in the rest of the state. Among Worcester adults whose reason for getting tested was to find out if they were infected, 58% reported not receiving any counseling when they received their test results.
- The percent of residents who reported having been tested ranged from 31% in Fall River/New Bedford to 40% in Boston and Lawrence/Lowell (Fig.19).

Figure 19

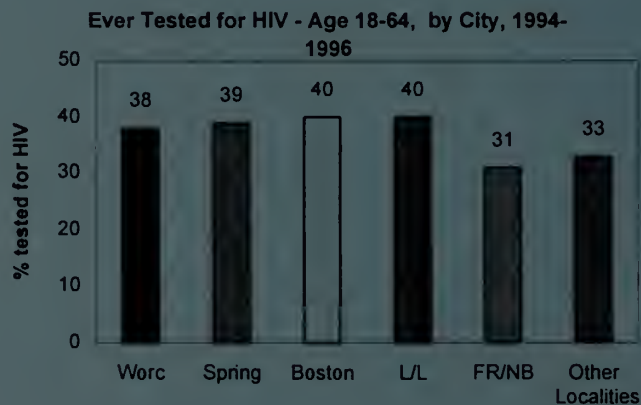
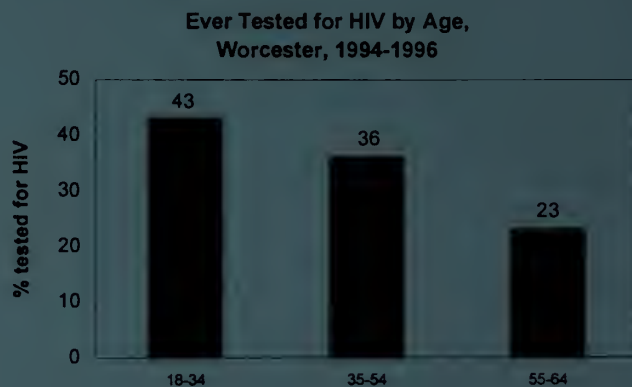


Figure 18



- Chronic drinking ranged from 4% in Worcester to 6% in Boston. Binge drinking ranged from 14% in Fall River/New Bedford to 23% in Boston (Fig. 17), and DWI ranged from 2% in Lawrence/Lowell to 5% in Worcester.
- In Worcester, as in the rest of the state, binge drinking and DWI were more common among males. DWI was higher for ages 18-34 (Fig.18).

Figure 20



- In Worcester, as in the rest of the state, blacks, Hispanics, and younger individuals were more likely to have been tested for HIV (Fig.20).

Breast Cancer Screening

- During 1994-1996, the American Cancer Society (ACS) recommended a mammogram every two years and a clinical breast exam every year for women age 40-49. For women age 50+, the ACS recommended both mammography and breast exam every year. In Worcester, 58% of women age 40-49, 61% of women age 50-64, and 57% of women age 65+ reported receiving the recommended screening (Fig.21).

Figure 21

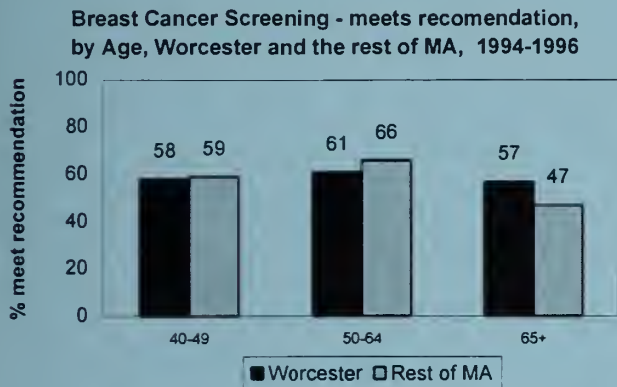


Figure 23

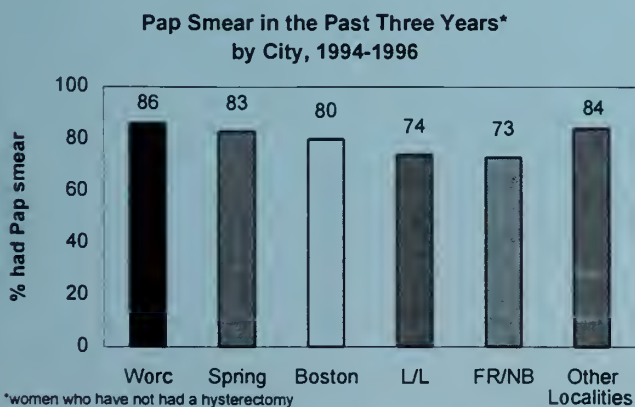
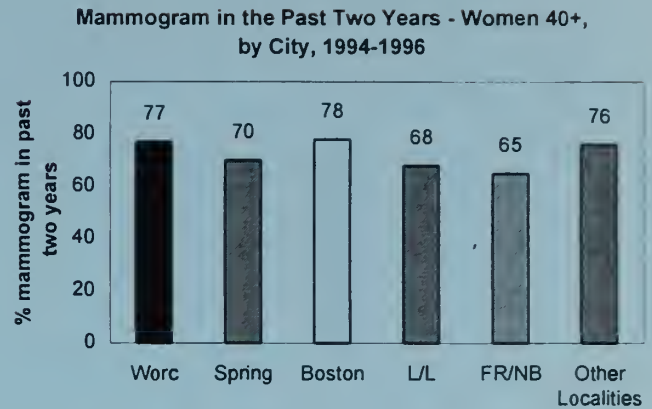
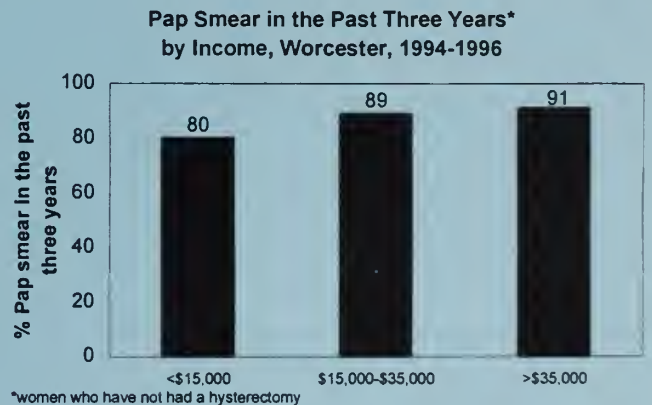


Figure 22



- In the rest of Massachusetts, 59% of women age 40-49, 66% of women age 50-64, and 47% of women age 65+ reported receiving breast cancer screening according to these guidelines (Fig.21).
- The percentage of women age 40+ who reported having had a mammogram in the past two years ranged from 65% in Fall River/New Bedford to 78% in Boston (Fig.22).

Figure 24



- In Worcester as in the rest of the state, older women and women with incomes below \$15,000 were less likely to have had a Pap smear in the past three years (Fig.24).

Methodology

The BRFSS has been conducted in Massachusetts since 1986 as a cooperative effort between the national Centers for Disease Control and Prevention and the Massachusetts Department of Public Health (MDPH). In 1994-1996, the BRFSS was conducted for the MDPH by Northeast Research of Orono, Maine, using a list-assisted random-digit-dial sampling methodology. Telephone numbers were randomly selected, and multiple attempts were made to reach each phone number. To be eligible for the survey, the telephone had to serve a household in which at least one adult eighteen years or older resided. Institutions, group quarters of ten or more unrelated adults, and temporary residences being occupied for less than a month, such as summer homes, were excluded. One adult from each household was randomly selected to complete the interview. If the selected adult was unable to complete the interview for any reason, such as a language barrier, disability, or lack of availability, no proxy respondents or substitutions were allowed. In addition to English, the survey was also conducted in Spanish and Portuguese.

In addition to the statewide sample, beginning in 1994, residents of selected urban areas of Massachusetts were oversampled in order to provide for local estimates of health risks. Households contacted as part of the oversampled cities were first screened to make sure their residence was in the targeted city. Within each eligible household contacted, an adult was selected at random and interviewed, using the same protocol described above.

The response rate for the combined statewide sample and oversample was 66% in 1994, 62% in 1995, and 58% in 1996. The interview completion rates among those households determined to be eligible were 73%, 70%, and 67% respectively. In order to provide estimates representative of the population, the survey responses were first weighted to adjust for the number of adults and the number of telephone lines in the household, and then further adjusted to the sex-age-race distribution of each geographic area, based on the 1990 Census.

For this report, data from 1994-1996 were combined when possible to reduce random fluctuation due to sampling. Analyses were conducted using SAS and SUDAAN. The latter was used to calculate 95% confidence intervals (CIs) that accounted for the weighting and complex sampling design of the survey. The size of the CI will vary primarily as a function of the number of respondents who answered a particular question and the proportion who report a particular risk. For example, for the estimate of current cigarette smoking in Worcester, which was asked of all respondents in all years, the CI was $\pm 3.1\%$. For the estimate of seat belt use, asked only in 1995, the CI was $\pm 5.8\%$. The degree of overlap in CIs was used as a decision-making guideline when making comparisons between demographic groups. Differences between each city and the rest of the state were highlighted if they met either of two criteria: (1) the p-value for the χ^2 test for differences between proportions was less than or equal to .05 or (2) the p-value for the χ^2 test for differences between proportions was less than or equal to .10 and the estimates for all oversampled cities were consistently higher or lower than the estimate for the other localities. Detailed tables with prevalence estimates and CIs are available upon request.

Potential sources of error in the BRFSS should be taken into account when interpreting the data. First, households without telephones do not have the opportunity to be included in the sample. Overall, only 2% of Massachusetts households do not have a telephone, but 10% of households below poverty level lack a phone. Adults in households with telephones may not be captured by the survey, either due to barriers such as language or disability or due to lack of interest. As with all surveys that collect self-reported data on behaviors, biased response is another source of concern. Respondents may overreport socially desirable behaviors, while underreporting behaviors they perceive to be socially unacceptable, or may have difficulty recalling the frequency or the time frame of various behaviors. Finally, because the BRFSS surveys a randomly selected sample of Massachusetts adults, results will differ to some extent from another random sample taken from the same population due to chance.